

KRASIL'SHCHIKOV, A. I.

Intermediate stages of anodic oxygen evolution. Zhur. fiz. khim.  
37 no. 3:531-537 Mr '63. (MIRA 17:5)

1. Gosudarstvennyy institut azotnoy promyshlennosti, Moskva.

L 16919-63 EMP(g)/EMT(m)/BDS AFFTC/ASD Pad JD/HW/JG/WB

S/076/63/037/004/009/029

62  
61

AUTHOR: Burtseva, I. K., Krasil'shchikov, A. I.

TITLE: Passivity and intercrystalline corrosion of stainless steel in nitric acid. II

16 18

PERIODICAL: Zhurnal fizicheskoy khimii, V. 37, No. 4, 1963, 810-816

TEXT: The article is devoted primarily to an explanation of the role of carbides in intercrystalline corrosion of stainless steel which at the present time is a matter of heightened interest. An investigation is made of the effect of carbides on the differential depolarization current and also on the phenomena of the repassivation of stainless steel. A partially immersed stainless steel specimen is passivated with greater difficulty but is more easily overpassivated than a completely immersed specimen. The passivation is hindered and overpassivation promoted by the precipitated chromium carbides. Precipitation of chromium carbides considerably augments the differential depolarization currents on the stainless steel in the nitric acid and also the current density between the differently immersed specimens. This leads to a sharp increase in the intercrystalline corrosion of the stainless steel which is induced by the carbide precipitation. The explanation of the ability of the precipitated chromium carbides to

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L 16919-63

S/076/63/037/004/009/029

Passivity and intercrystalline corrosion of ...

intensify the intercrystalline corrosion of stainless steel in nitric acid lies in the fact that they are electron donors, possess reducing properties, and are unique centers of the depassivation of stainless steel. There are 7 figures.

ASSOCIATION: Nauchno-issledovatel'skiy i proyektnyy institut azotnoy promyshlennosti i produktov organicheskogo sinteza (Scientific Research and Design Institute of the Nitrogen Industry and of Products of Organic Synthesis)

SUBMITTED: April 3, 1962

Card 2/2

L 9898-63 EWP(q)/BDS/EWT(m)—AFFTC—JD/WB  
ACCESSION NR: AP3000412 S/0076/63/037/005/1037/1042

AUTHOR: Tsvetnova, R. V.; Dyatkina, S. L.; Sheremet'yeva, S. N.; Kel'n, A. K.;  
Krasil'shchikov, A. I.

TITLE: Corrosion and passivity of titanium in sulfuric acid solution 58

SOURCE: AN SSSR. Zhurnal fizicheskoy khimii, v. 37, no. 5, 1963, 1037-1042

TOPIC TAGS: corrosion, passivity of titanium, electrochemical behavior of Ti; passivating adsorption layer

ABSTRACT: The electrochemical and corrosion behavior of Ti in 5 and 10 N sulfuric acid solutions, alone and in the presence of additions of potassium iodide, tetraethylammonium iodide, copper sulfate and nitric acid, in a nitrogen atmosphere, has been investigated by the potentiometric and discharge curve methods, as well as by gravimetric determination of the corrosion losses. Passivation is impeded by raising the temperature. The addition of I<sup>-</sup>, Cu<sup>2+</sup> and HNO<sub>3</sub> retards anodic solution of Ti in H<sub>2</sub>SO<sub>4</sub> and facilitates initial passivation of the metal. It is suggested that the

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L 9898-63  
ACCESSION NR: AP3000412

passivity of Ti is due to the formation of a passivating adsorption layer on its surface. Orig. art. has: 3 equations, 1 table, 8 figures.

ASSOCIATION: Gosudarstvenny nauchno-issledovatel'skiy i proektniy institut azotnoy promyshlennosti (State Scientific Research and Design Institute for Nitrogen Industry)

SUBMITTED: 22Jan62 DATE ACQ: 19Jun63 ENCL: 00

SUB CODE: 00 NR REF Sov: 011 OTHER: 006

Card 272

KRASTISHCHIKOV, A.I.

"On Passivity of Metals."

Report presented at the 14th meeting CITCE, Intl. Comm. of Electrochemical Thermodynamics and Kinetics, Moscow, 19-25 Aug 63.

State Nitrogen Institute, Moscow U.S.S.R.

L 2128-65 DDC(1)/DDA(2)/DDV(3)/DDU(4) - LSD/ABD(2)-3/LSD(2)-1/AMDC - DD/ABD

ACCESSION NR. AP404488 S/0076/04/038/008/1956/1962

AUTHOR: Burisova, I. K. (Moscow); Plotnikova, O. P. (Moscow); Kravtsova, L. A. (Moscow)

TITLE: Passivation and intercrystalline corrosion of stainless steel in nitric acid. III. Potentiostatic method for obtaining anodic polarization curves.

SOURCE: Zhurnal fizicheskoy chimii, v. 38, no. 8, 1964, 1956-1962

TOPIC TAGS: metal corrosion, stainless steel, passivation, overpassivation, polarization curve

ABSTRACT: Due to the high content of chromium in stainless steel it is easily passivated in nitric acid. The diversity of opinions on intercrystalline corrosion of stainless steel in nitric acid has stimulated this investigation. Half of the samples were annealed at 650°C for three hours to increase intercrystalline corrosion. The second half of the stainless steel samples were investigated in the hardened state. The potentiostatic method was used for obtaining polarization curves. In the passivation region no intercrystalline corrosion was detected on any of the

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I-21526-65

ACCESSION NR. AP404438

Investigated stainless steels at 600°C in the course of 1500 hours of testing. In the overpassivation region all of the investigated steels, regardless of composition and structure were subjected to intercrystalline corrosion. The precipitation of chromium carbides facilitates overpassivation and initiation of intercrystalline corrosion. Original has 3 tables and 6 figures.

ASSOCIATION: Gosudarstvennyy institut azotnoy promyshlennosti (State Institute of the Nitrogen Industry)

SUBMITTED: 26Jul63

ENCL: 00

SUB CODE: GC, MM

NR REF Sov 015

OTHER: 007

2/2

KRAS'NIKHIEV, A.I.

Mechanism of metal passivity. Zastekh. met. i no.2:150-155  
(MIRA 18:e)  
Mr-Ap '65.

1. Gosudarstvennyy institut azotnoy promyshlennosti.

KRASIL'SHCHIKOV, A.I.

Reaction of the electrochemical ionization of oxygen.  
Zashch.met. 1 no.6:611-623 N-D '65.

(MIRA 18:11)

1. Gosudarstvennyy institut azotnoy promyshlennosti.

L-25638-65 LPP (u) -2/RW1(u)/LNP(t)/SNA(d)/LNP(c) PL-9 LJP(c) 00/04/04/21  
ACCESSION NR. AB5004359 8/0076/65/039/001/0181/0180

AUTHOR: Pukhomova, N. M., Makarov, A. F., Veredova, I. D., Krasheninnikov, A.

TITLE: Anodic behavior of titanium-niobium alloys

SOURCE: Zhurnal fizicheskoy khimii, v. 39, no. 1, 1965, 181-184

TOPIC TAGS: titanium, titanium alloy, niobium-containing alloy, alloy corrosion, alloy anodic behavior, alloy passivation

ABSTRACT: The anodic behavior of Ti-Nb alloys in 5N H<sub>2</sub>SO<sub>4</sub> at 25°C has been investigated. Additions of 2 and 10% Nb decrease the density of the critical passivation current from 222  $\mu$ amp/cm<sup>2</sup> for unalloyed Ti to 116 and 71  $\mu$ amp/cm<sup>2</sup> (see Fig. 1 of the enclosure). However, these additions do not appreciably affect the current density in the passive region. An addition of 35% Nb decreases the critical passivation current density to 7.5  $\mu$ amp/cm<sup>2</sup> and also the current in the passive region. Additions of 10 and 35% Nb shift the steady potential toward more positive values from -0.37 to -0.32 and -0.23 V, but at 2% Nb the steady potential becomes more negative. Orig. art. has: 3 figures. [MS]

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L 25638-65

ACCESSION NR: AB5004359

ASSOCIATION: (Gosudarstvennyj institut nauchnoy promyshlennosti (State Institute  
of the Nitrogen Industry))

SUBMITTED: 19Dec63

ISOL: 51

SUB CODE: MM

NO REF Sov: 004

OTHER: 003

ATT. PRESS: 3185

Card 2/3

RECORDED 6/16/1987 BY [REDACTED] 207-211  
ACCESSION 2000-00826110

5/0076/65/029/001/020/207-211

AUTHOR: T. V. KALINOVICH, I. V. SOKOLOV

TITLE: Passivation of titanium in sulfuric acid

SOURCE: Zhurnal Tekhnicheskoi Khimii, v. 19, no. 1, 1965, 207-211

TOPIC TAGS: passivation, corrosion, titanium, sulfuric acid

ABSTRACT: In a previous article (Zhurn. Tekhnicheskoi Khimii, 37, 1037, 1963) it was shown that passivation of titanium in sulfuric acid does not produce any visible changes in the oxide film. This article presents a more detailed account of the electrochemical behavior of titanium in sulfuric acid. The potential sweep cycling of the anodic oxidation of titanium in sulfuric acid in the presence of various components were conducted at the rate of 10 mV/min. The anode was a titanium electrode in a pure nitrogen atmosphere in the 5-85% concentration range. A tin oxide electrode in the same solution was used as a cathode. The potential of dissolution of titanium at 0.055 V and 1.4 V was determined by the method of analysis of the titanium boron complex. Data show that at 0.055 V, 0.02 mg of boron per 50 ml of the initial solution, the active surface of the anode is able to produce trivalent ions and in the 0.05-1.4 V region it produces tetravalent ions, tetravalent titanium ions in solution.

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C 31/901-265

ACCESSION NUMBER 000826110

Strong dependence of the starting passivation potential on the starting passivation potential is observed. The passivation potential is reduced at 25°C in the close starting passivation potential range (1.65V) and about 1.1V in the passive region. Only 1.1V is necessary for the titanium dioxide dissolution in the passive region. The passivation potential is apparently a result of the formation of oxygen radical ions and the formation of an oxygen barrier in the titanium dioxide surface film which inhibits the dissolution process. A. R. Kellin and S. A. Zorkova participated in the experimental part of this work. Oxygen and nitrogen figures and X-ray spectra.

ASSOCIATION: Institute of Physics and Mathematics of Institute of the Nitrogen Industry

SUBMITTED: 04 Feb 84

ENCL: 00

SUB-CODE: M 0

NO REG Sov: 006

OTHER: 1003

Card 2/2

SALEY, S.M.; SHARONOVА, T.N.; KRASIL'SHCHIKOV, A.I.

Anodic behavior of the hydrogen electrode in alkali under  
pressure. Part 1. Zhur. fiz. khim. 39 no.345-351 F '65.  
(MIRA 18:4)

KRASIL'SHCHIKOV, A.I.; ANTONOVA, L.G.

Activated adsorption and ionization of gases on metals. Zhur.fiz.khim.  
39 no.7:1690-1699 Jl '65. (MIRA 18:8)

1. Gosudarstvennyy institut azotnoy promyshlennosti.

AVDEYEVA, Aleksandra Vasil'yevna; OSTROVSKIY, A.I., prof.;  
ZRASIL'SHCHIKOV, A.I., doktor khim. nauk; FUKS, V.Z.,  
red.

[Corrosion in food production and measures for its pre-  
vention] Korroziia v pishchevykh proizvedstvakh i sposoby  
zashchity. Minsk, Pishchevaia promyshlennost', 1965.  
242 p. (MIRA 18:9)

PAKHOMOVA, N.M.; MAKSIMOVA, N.P.; NEFEDOVA, I.D.; KRASIL'SHCHIKOV, A.I.

Anodic behavior of titanium-niobium alloys. Zhur. fiz. khim. 39  
no. 1:181-184 Ja '65 (MIRA 19:1)

1. Gosudarstvennyy institut azotnoy promyshlennosti. Submitted  
December 19, 1963.

TSVET'KOVA, R.V.; KRASIL'SHCHIKOV, A.I.

Passivity of titanium in sulfuric acid. Zhar. fiz. khim. 39  
no. 1:207-211 Ja '65 (NIRA 19:1)

1. Submitted February 4, 1964.

KRASIL'SHCHIKOV, I.I.

Stand test methods for the compressors of turbosuperchargers.  
Trudy TSNI IMF no. 62:3-10 '65. (MIRA 18:12)

ANTONIOVA, L.G.; KRASIL'SHCHIKOV, A.I.; SIVYAKOVA, R.F.; DMITREVA, L.M.

Ammonia yield on a K-55 catalyst as a function of the potential.  
Khn. i kat. 6 no. 621117-1118 N-D '65 (MIRA 1961)

1. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy  
institut azotnoy promyshlennosti i produktov organicheskogo  
sintezu. Submitted February 3, 1965.

L 23873-66 EWT(m)/EMP(j) JD/RM

ACC NR: AP6008617

(A)

SOURCE CODE: UR/0365/65/001/006/0611/0623

46  
B

AUTHOR: Krasil'shchikov, A. I.

ORG: State Institute for the Nitrogen Industry (Gosudarstvennyy institut azotnoy promyshlennosti)

TITLE: Electrochemical ionization reaction of oxygen.

SOURCE: Zashchita metallov, v. 1, no. 6, 1965, 611-623

TOPIC TAGS: oxygen, electrochemistry, electrode potential , ionization

ABSTRACT: A survey of recent literature on the electrochemical ionization of oxygen is presented, listing a total of 66 Soviet and foreign papers. The author concludes that the electrochemical reduction of oxygen proceeds via the formation of the peroxy radical HO<sub>2</sub>. Noncorroding or noble metals involved may be divided into two groups, depending on the mechanism of peroxy radical formation, viz.: silver, gold, and mercury—platinum and palladium. The mechanism of HO<sub>2</sub> formation on a group 1 metal, e.g., silver cathode, may be represented by the following scheme

Card 1/2

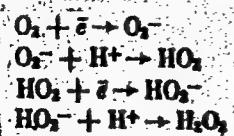
UDC: 541.138.3

2

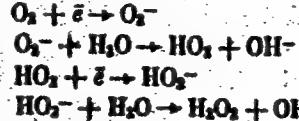
L 23873-66

ACC NR: AP6008617

## in acid

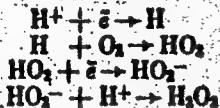


## in alkali

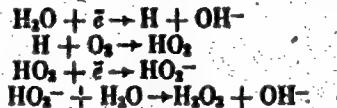


and for a group 2 metal, e.g., platinum cathode, by scheme

## in acid



## in alkali



It is suggested that the above kinetic schemes represent limiting cases and that both processes may become operative, as seems to be the case for a slightly poisoned platinum surface. A short review (five papers) on the reduction of oxygen on technical metals is also included. The review is accompanied by appropriate graphs and tables. Orig. art. has: 1 table and 9 graphs.

SUB CODE: 07/ SUBM DATE: 18Mar65/ ORIG REF: 039/ OTH REF: 027

Card 2/2 dda

I 24500-66 EWT(m)/EWP(j)/T WW/JW/JWD/RM	SOURCE CODE: UR/0195/65/006/006/1117/1118
ACC NR: AP6002167	
AUTHOR: Antonova, L. G.; Krasil'shchikov, A. I.; Sivyskova, R. F.; Dmitrenko, L. M.	
ORG: State Scientific Research and Planning Institute of the Nitrogen Industry and Products of Organic Synthesis (Gosudarstvennyy nauchno-issledovatel'skiy i proyektornyy institut azotnoy promyshlennosti i produktov organicheskogo sinteza)	
TITLE: Potential dependence of ammonia yield on K-55 catalyst 1 46 SOURCE: Kinetika i kataliz, v. 6, no. 6, 1965, 117-118 8	
TOPIC TAGS: nitrogen, hydrogen, ammonia, cathode polarization	
ABSTRACT: In order to determine the effect of the electrochemical polarization of K-55 catalyst on the rate of ammonia synthesis, the potential of thin layers of the catalyst was measured during polarization. The experiments were carried out at 375-400°C with a nitrogen-hydrogen mixture of stoichiometric composition; the ammonia was absorbed in a 0.01 N H <sub>2</sub> SO <sub>4</sub> solution and back-titrated with methyl red. The current density ranged from 0.04 to 1 μA/cm <sup>2</sup> , and the potential was shifted from 0 to 6 V. A very slight increase in ammonia yield was noted as the cathode potential was raised. It is concluded that the substantial increase in ammonia yield (by a factor of 2-2.5) observed earlier by other authors when strong fields were applied to the electrode must be directly related to the influence of the fields on the catalytic reaction, and 1 2	
UDC: 541.128.13.037+542.91 : 546.171.1	
Card 1/2	

L 24500-66

ACC NR: AP6002167

is not due to electrolysis phenomena in the glass. During polarization, only the portions of the porous catalyst electrode which are directly adjacent to the glass become partially activated. Orig. art. has: 1 figure.

SUB CODE: 07/ SUBM DATE: 03Feb65/ ORIG REF: 003/ OTH REF: 000-

Card 2/2 LC

L 329466 FMP(c)/EMD(t)/ETI IJP(c) JG/RB

ACC NR: AP6015285 (N)

SOURCE CODE: UR/0365/66/002/003/0295/0299

AUTHOR: Tsvetnova, R. V.; Krasil'shchikov, A. I.

ORG: State Institute of the Nitrogen Industry (Gosudarstvennyy institut azotnoy promyshlennosti)

TITLE: Passivity of titanium in sulfuric acid in deep anodic oxidation,

SOURCE: Zashchita metallov, v. 2, no. 3, 1966, 295-299

TOPIC TAGS: titanium, passivity, anodic oxidation, sulfuric acid, corrosion rate

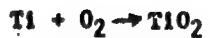
ABSTRACT: The corrosion and electrochemical behavior of titanium under anodic oxidation conditions was studied at high positive values of the potential (up to 7 V) in the presence of molecular oxygen and nitrogen. Electrodes of iodide titanium were investigated in 1 N sulfuric acid at 25 and 65°C. Polarization was achieved with a potentiostat, and the dissolution rate of titanium was determined by colorimetric analysis of the solution. In both oxygen and nitrogen at both temperatures and potential values from 1.4 to 7 V, the dissolution takes place at an approximately constant rate. In the range of minimum anodic current, the dissolution rate is approximately one order of magnitude smaller than the rate calculated from the current; this is attributed to the chemical dissolution of titanium. In the oxygen atmosphere, the dissolution rate of titanium is about three times faster than in nitrogen, apparently

Card 1/2

UDC: 541.138.2

ACC NR: AP6015285

because of the following reactions:



Orig. art. has: 4 figures.

SUB CODE: 07,11 SUBM DATE: 09Apr65/ ORIG REF: 011/ OTH REF: 005

Card 2/2 lib

KRASIL'SHCHIKOV A.M.

PREDDEL', A.R.; BISKER, I.M.; MOTORNYY, I.A.; KRASIL'SHCHIKOV, A.M.;  
KORONCHEVSKAYA, O.A.

Blood-sucking Diptera of the subfamily Culicinae in the Moldavian  
S.S.R. and neighboring districts in the Ukraine. Med.paraz. i paraz.  
bol.supplement to no.1:56-57 '57. (MIRA 10:1)

1. Iz Odesskogo universiteta imeni Mechnikova i Moldavskoy respubli-  
kanskoy protivomalyariynoy stantsii.  
(MOLDAVIA--MOSQUITOES) (UKRAINE--MOSQUITOES)

KRASIL'SHCHIKOV, A.M.

BISKER, I.M., MOTORNYY, I.A., KRASIL'SHCHIKOV, A.M., BASYUL, N.K.

Effect of low temperatures on the quality of concentrated  
emulsions of DDT and benzene hexachloride. I.M. Bisker and others.  
Med. paraz. i paraz. bol. 27 no.2:228 Mr-Ap '58 (MIRA 11:5)

1. Iz Respublikanskoy protivomalyariynoy stantsii Moldavskoy  
SSR (glavnnyy vrach I.M. Bisker)  
(INSECTICIDES)

KRASIL'SHCHIKOV, B., kandidat tekhnicheskikh nauk.

Rapid method for determining moisture content in sausages.  
Mias. ind. SSSR 27 no. 4:50-51 '56. (MLRA 9:10)

1. Tsentral'naya nauchno-eksperimental'naya laboratoriya  
Ukrpromsoveta.

(Sausages)

KRASIL'SHCHIKOV, B., kand. tekhn. nauk

Methods for the analysis of sausage products must be simplified,  
Mizs. iind. SSSR 29 no. 4;40 '58. (MIRA 11 '8)  
(Sausages)

KRASIL'SHCHIKOV, B., kand. tekhn. nauk.

What must be included in specifications. Mias. ind. SSSR 29 no.6:36  
'58. (MIRA 11:12)  
(Sausages)

KRASIL'SHCHIKOV, B.E.

Processing corn in beet-sugar factories. Sakh.prom.30 no.11:37-40  
N 156. (MIRA 10:2)  
(Corn products)

KRASIL'SHCHIKOV, B.E.

Porous plastic material for filtration. Sakh. prom. 33 no. 42-43  
Ap '59. (MIRA 12:6)  
(Filters and filtration) (Plastics)

15.8340

8511.9  
S/191/60/000/007/013/015  
B004/B056

AUTHOR: Krasil'shchikov, B. E.

TITLE: The Replacement of Filter Tissues by Porous Plastics

PERIODICAL: Plasticheskiye massy, 1960, No. 7, p. 67

TEXT: At the Kiyevskiy nauchno-issledovatel'skiy institut stroymaterialov (Kiyev Scientific Research Institute of Construction Materials) a simple process of producing porous filter-plastics was developed. 60% of common salt (finely strained through a sieve with 10,000 openings per cm<sup>2</sup>) are mixed with polyvinyl chloride resin and pressed at 200 kg/cm<sup>2</sup> and 150 - 160°C. The plates, which are 3 - 4 mm thick, are washed out in running water for 3 - 4 days. These filters are stable against acid- and base-concentrations of up to 20%, but become soft already at 60 - 70°C. At the Tsentral'naya nauchno-issledovatel'skaya laboratoriya Ministerstva mestnoy promyshlennosti USSR (Central Scientific Research Laboratory of the Ministry of Local Industry of UkrSSR) experiments were carried out in which clay suspensions were filtered at a pressure of 2 - 3 atm. It was decided

Card 1/2

The Replacement of Filter Tissues  
by Porous Plastics

85149  
S/191/60/000/007/013/015  
B004/B056

to furnish all porcelain- and fayence-factories in the Ukraine with such filters. In Odessa, a plant was built in which filters are produced from plastics. In recent times, the thermal stability could be increased up to 100°C. Low-pressure polyethylene<sup>15</sup> and caprone<sup>15</sup> are mentioned as being most suited for the production of filter materials.

X

Card 2/2

KRASIL'SHCHIKOV, B.E.

Technology and technical and chemical control of beet-sugar  
manufacture by I.M. Litvak. Reviewed by B.E. Krasil'shchikov.  
Izv. vys. ucheb. zav.; pishch. tekhn. no.6:150 '63.  
(MIRA 17:3)

KRASIL'SHCHIKOV, D. G.

USSR/Pharmacology. Toxicology. Toxicology.

V-10

Abs Jour : Ref Zhur-Biol., No 6, 1958, 28290.

Author : Krasil'shchikov D. G.

Inst : Tashkent State Medical Institute.

Title : On the Problem of the Toxic Action of Manganese Compounds in Electrode Shops.

Orig Pub : Nauch. raboty stud. Tashkentsk. gos. med. in-ta.  
Tashkent, AN Uzb SSR, 1956, 79-83.

Abstract : A sanitary-hygienic investigation of work conditions in two shops where electrodes are manufactured, and which are lubricated by a lubricant which consists of granite, hematite, and ferromanganese were investigated. The sources of dust formation were the processes of pulverization of

Card 1/2

USSR/P APPROVED FOR RELEASE Monday, July 31, 2000 CIA-RDP86-00513R00082610C

Abs Jour : Ref Zhur-Biol., No 6, 1958, 28290.

Abstract : the screening, sifting, measuring and mixing of the components. The dust content in the air rose to 32.3 mg/m<sup>3</sup>. In an experiment on mice phagocytosis (the number of phagocytes and the intensity of phagocytosis) of the dust obtained in the shops by the method of precipitation and of pure ferromanganese was studied. The phagocytosis caused by dust as a whole was of greater intensity than that caused by ferromanganese dust.

Card 2/2

USCOMM-DC-55, 109

LYUBETSKIY, Kh.Z., kand.med.nauk; KRASIL'SHCHIKOV, D.G.; RESHETOVA, T.Ye.

Problem of food poisoning with granosan. Gig.i san. 26 no.3:68-71  
Mr '61. (MIRA 14:7)

1. Iz Uzbekskogo nauchno-issledovatel'skogo instituta sanitarii i  
gigiyeny i Tashkentskoy oblastnoy sanitarno-epidemiologicheskoy  
stantsii.

(INSECTICIDES--TOXICOLOGY) (FOOD POISONING)

KRASIL'SHCHIKOV, D.G.

Biological role of strontium as a microelement and its content  
in food products of plant origin (Tashkent Province). Vop. biol.  
i kraev.med. no.3:216-221 '62. (MIRA 16:3)  
(TASHKENT PROVINCE—STRONTIUM)  
(TASHKENT PROVINCE—PLANTS—CHEMICAL ANALYSIS)

KRASIL'SHCHIKOV, D.G.

Toxicity of commercial chlorophos for warm-blooded animals.  
Vop. biol. i kraev. med. no.4:422-428 '63.  
(MIRA 17:2)

KRASIL'SHCHIKOV, L.A.

Conditions governing the formation of underground waters in the continental layer of the Kirovabad-Kazakh Massif. Dokl. AN Azerb. SSR 20 no.3:37-40 '64.  
(MIRA 17:7)

1. Institut nefti i khimii AN AzerSSR. Predstavлено akademikom AN AzerSSR A.A.Alizade.

KRASIL'SHCHIKOV, L.A.

Hydrogeological regionalization of the Kirovabad-Kazakh Massif  
according to the hydrogeological properties of underground  
waters. Dokl. AN Azerb. SSR 21 no.6:31..34 '65.

(MIRA 18:12)

KULOSHVILI, I.S.; KRASIL'SHCHIKOV, L.A.

Ground waters in the Kirovabad-Kazakh Massif and possibilities  
of their utilization. Gidr. i mel. 15 no.8:22-25 Ag '63.  
(MIRA 16:8)

1. Azerbaydzhanskiy gosudarstvennyy institut po proyektiro-  
vaniyu vodokhozyaystvennogo stroitel'stva.

KRASIL'SHCHIKOV, L.A.

Calculating the balance of underground waters of the continental strata  
of the Kirovabad-Kazakh inclined plain. Za tekh.prog. 3 no.10:  
37-39 O '63. (MIRA 16:12)

1. Azerbaydzhanskiy institut nefti i khimii imeni M.Azizbekova.

KRASIL'SHCHIKOV, I.A.

Problems of the stream capture of underground waters in  
sloping plains as revealed by a study of the Kirovabad-Kazakh  
sloping plain. Dokl. AN Azerb. SSR 19 no. 9:45-49 '63.

I. Institut nafti i khimii N. A. S. S. R. Prezravlenie akademikom  
AN AzSSR I.A. Alizade. (MIRA 17:8)

KRASIL'SHCHIKOV, L. B.

36226

Fotoelektricheskiy kompensator. (Avtomatizatsiya upravleniya shirill'nyimi mashinami). Tekstil. prom-st', 1949, No. 11, s. 32-33

SO: Letopis' Zhurnal'nykh Statey, No. 49, 1949

69 821

SOV/169-59-2-1693

Translation from: Referativnyy zhurnal, Geofizika, 1959, Nr 2, p 106 (USSR)  
3.5000

AUTHOR: Krasil'shchikov, L.B., Morozenskiy, I.A.

TITLE: Measuring the Spectral Intensity of Light Scattered by Cloud Particles

PERIODICAL: V sb.: Issled. oblakov, osadkov i grozovogo elektrichestva. Leningrad,  
Gidrometeoizdat, 1957, pp 140 - 141

ABSTRACT: A method for determining the attenuation index of light in a cloud by  
measuring the spectral intensity of two cloud columns of different length  
is proposed. A two-channel electronic circuit, in which two photoresistors  
control the frequency of two multivibrators, is applied for measuring the  
relation of two brightnesses. The process of measuring the relation of  
two light beams brought about by their equalization by means of a graduated  
diaphragm.

L.B. Krasil'shchikov

Card 1/1

AUTHORS: Krasil'shchikov, L. B. and Novosel'tsev, Ye. N.  
TITLE: Spectral reflectivity of barite paper. (Spektral'naya 51-3-14/24  
otrazhatel'naya sposobnost' baritovoy bumagi).  
PERIODICAL: "Optika i Spektroskopiya" (Optics and Spectroscopy),  
1957, Vol.2, No.3, pp.377-378 (U.S.S.R.)  
ABSTRACT: In many applications of photometry and so-called standard  
reflecting surfaces are used. Among them are gypsum,  
magnesium oxide, barium sulphate, barite paper, all of which  
depart from the properties of a perfect white diffuser  
especially at large angles of incidence. Barite paper is  
used as a working standard in the near infrared region for  
the study of the spectral coefficients of luminance. For  
this reason it was necessary to find the spectral reflectivity  
of barite paper in the near infrared. Barium sulphate  
standard could not be used to calibrate barite paper since the  
characteristics of the former are known for the visible light  
only. A photoelectric photometer was used to find the  
spectral characteristics of an incandescent lamp used as a  
light source and of the light of this lamp reflected normally  
from barite paper. The light beam from the lamp made a 45°  
angle with the paper surface. The measured characteristics  
were distorted by the selectivity of the AgS photocell and

Card 1/2

Spectral reflectivity of barite paper. (Cont.)

the optics of the photometer. This did not affect the measurement since only the ratios of monochromatic intensities of the incident and reflected beams were required. The voltage of the lamp supply was held very constant. The two curves obtained represented the products of the spectral characteristics of the photometer and energy distributions of the spectrum coming directly from the lamp and the spectrum of the light reflected from barite paper. Ratios of the ordinates of these two curves gave spectral reflectivity of the barite paper in arbitrary units. To obtain absolute reflectivity the infrared reflectivity of barite paper in arbitrary units was joined to a known curve in the visible region. This known curve was obtained by calibrating barite paper with barium sulphate standard whose reflectivity is 99.5% in the visible region. The results are presented in the only figure in the paper. The absolute spectral reflectivity of barite paper is shown to be 0.85 between 5000 and 11000 Å and it falls to about 0.80 at 13 000 Å. There is 1 figure; no references.

51-3-14/24

Card 2/2

SUBMITTED: August 16, 1956.  
ASSOCIATION: Chief Geophysical Observatory named after A.I.Voyeykov, Leningrad. (Glavnaya Geofizicheskaya Observatoriya im. A. I. Voyeykova, Leningrad).

AVAILABLE:

AUTHOR: Krasil'shchikov, L.B., and Pyatovskaya, N.P. 36-68-8/18

TITLE: Spectral Indices of Reflection of Given Surfaces on a  
Cloudy Day Under Conditions of Natural Illumination  
(Spektral'nyye indikatrysy otrazheniya nekotorykh  
poverkhnostey pri yestestvennom osveshchenii v  
oblachnyy den')

PERIODICAL: Trudy Glavnay geofizicheskoy observatorii  
1957, Nr 68, pp. 132-139 (USSR)

ABSTRACT: The article examines a photographic method of determining  
the spectral indices of diffused reflection from a number  
of selected surfaces (grass, sand, snow, etc) with diffe-  
rent scales of reflectibility. The author establishes 4  
types of reflecting surfaces and evaluates a monochrometer  
built for this purpose. The entire calculation is based  
on the spectral distribution of brightness of an ideal  
diffusion surface. The article mentions Ye.L. Krinov and  
N.S. Orlova. There are 10 figures and 12 references, of  
which 7 are USSR.

AVAILABLE: Library of Congress  
Card 1/1

AUTHOR: Krasil'shchikov, L.B., Golikova, O.I., and Novosel'tsev, 36-68-10/18  
Ye. P.

TITLE: Photoelectric Measurements of Relative Spectral Coefficients  
of Brightness (Fotoelektricheskiye izmereniya spektral'-  
nykh otnositel'nykh koeffitsiyentov yarkosti)

PERIODICAL: Trudy Glavnay geofizicheskoy observatorii  
1957, Nr 68, pp. 152-163 (USSR)

ABSTRACT: Photographic spectrometry is gradually being replaced by  
photoelectric spectrometry. The article discusses results  
of determining the brightness coefficient of brick, slate,  
and various paints and describes a number of photoelectric  
apparatus used for this purpose. The article mentions  
Ye. L. Krinov. There are 14 diagrams and 4 tables, two of  
them in the appendix. Of 13 references, 10 are USSR.

AVAILABLE: Library of Congress

Card 1/1

KRASIL'SHCHIKOV, L. B.

AUTHORS: Bravshteyn, A.M. and Krashil'shchikov, L.B. 51-4-3-25/30

TITLE: Radiation Thermocouple with a Direct Visual Adjustment  
(Radiatsionnyy termocouple s pryamoy vizual'noy  
navedkoy.)

PERIODICAL: Optika i Spektroskopiya, 1958, Vol.IV, Nr.3,  
pp.412-413 (USSR)

ABSTRACT: Sighting of the receiving surface of a thermoelectric cell can be made either electrically or optically. A direct visual adjustment is necessary, for example in the case of low-temperature sources, where to exclude the radiation background it is necessary for the image of the source to cover completely the receiving surface of the thermoelectric cell. The authors developed a thermoelectric cell in which the receiving surface may be observed by means of an eyepiece, simultaneously with the image of the source. Adjustment is made by moving the optical system until the receiving surface intersects the source image. In the case when the source image is larger than the receiving surface the adjustment is made so that the receiving surface covers the central portion of the

Card 1/2

Radiation Thermocouple with a Direct Visual Adjustment. 53-4-3-25/30  
source image. The thermocouple tube (Fig.1) is in the form of a cylinder whose one base is a window (transparent also in the visible region) for introduction of the radiation studied, and the second is a plane parallel piece of glass. Carbon getter was placed in a bulb which formed a double-walled cylindrical vessel surrounding the thermocouple tube. The eye-piece tube passed right through the getter bulb (Fig.2). The instrument was tested in the Main Geophysical Observatory by N.A. Vessart and found to be convenient in use. There are 2 figures.

ASSOCIATION: Main Geophysical Observatory imeni A.I. Voevodskogo.  
(Glavnoye geofizicheskaya observatoriya im. A.I. Voevodskogo.)

SUBMITTED: July 12, 1957.

1. Thermoelectric Cells--Characteristics

Card 2/2

85365

9,6000 (1012,1024,1099)

S/120/60/000/005/043/051  
E192/E382

AUTHORS: Krasil'shchikov, L.B. and Brounshteyn, A.M.

TITLE: Potentiometer Method of Measuring Small emf by  
means of a Photoelectro-optical Amplifier

PERIODICAL: Pribory i tekhnika eksperimenta, 1960, No. 5,  
p. 140

TEXT: The potentiometer method of measuring low voltages  
by means of a photoelectro-optical amplifier can be used for  
the recording of emf by employing, for instance, the  
electronic potentiometer, type ЭПП-09 (EPP-09). For this  
purpose the voltage taken from the slide wire of the  
potentiometer should be reduced by the divider and then applied  
to the input circuit of the amplifier. The output voltage  
of the amplifier should now be applied directly to the input  
terminals of the amplifier of the potentiometer EPP-09, as  
shown in Fig. 2. The division ratio of the potentiometer  
decreases  $(R_1 + R_2)/R_2$  times; the signal applied to the  
amplifier of the potentiometer should be increased by the  
same amount in order to preserve the same operating condition

Card 1/2

85365

S/120/60/000/005/043/051  
E192/E382

Potentiometer Method of Measuring Small emf by means of a  
Photoelectro-optical Amplifier

for the servo system of the potentiometer. This gain can  
be secured by means of the photoelectro-optical amplifier.  
Fig. 3 shows a recording of a signal having an amplitude  
of  $1.4 \times 10^{-7}$  V by means of a single-stage photoelectro-  
optical amplifier in which a 6 V, 15 W illuminating lamp  
was employed. As can be seen from the figure, the signal  
remains constant. In order to obtain higher sensitivity,  
it is desirable to employ a two-stage photoelectro-optical  
amplifier. There are 3 figures and 2 references: 1 Soviet  
and 1 English.

✓

ASSOCIATION: Glavnaya geofizicheskaya observatoriya  
(Main Geophysical Observatory)

SUBMITTED: July 15, 1959

Card 2/2

KRASIL'SHCHIKOV, L.B.; GOLIKOVA, O.I.

Photometric apparatus for the measurement of spectral brightness coefficients. Trudy GGO no.100:110-114 '60.  
(MIRA 1):6  
(Spectrophotometry)

KRASIL'SHCHIKOV, L.B.

Sighting with an objective receiver through a turbid atmosphere.  
Trudy GGO no.100:128-130 '60. (MIRA 13:6)  
(Meteorological optics)

KRASIL'SHCHIKOV, L.B.; TSAREVSKAYA, A.A.

Apparatus for measuring reflection indicatrices in the  $0.6-2.5\mu$  region of the spectrum. Trudy GGO no.100:131-132 '60.

(MIRA 13:6)

(Reflection (Optics))

24,3200

40239  
S/169/62/000/007/099/149  
D228/D307

AUTHOR: Krasil'shchikov, L. B.

TITLE: Some results of measuring the spectral indicatrices of the brightness coefficients of natural surfaces

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 7, 1962, 29, abstract 7B168 (V sb. Aktinometriya i atmosfern. optika, L., Gidrometeoizdat, 1961, 228-231)

TEXT: The author applied the photoelectric method to measure the spectral reflecting power of natural formations. A universal Pulf-rich photometer, adapted for objective measurements, was used as the instrument. It is portable. A two-beam device system, which allowed the brightness of the object to be compared with that of a standard, was chosen to eliminate errors due to the temporally varying illumination. The comparison was made by means of simultaneously spectrophotographing the specimen and the standard. Baryta paper was used as the standard. The measurements were carried out as follows: Light flows from opal glass and from the object alter-

Card 1/3

Some results of ...

S/169/62/000/007/099/149  
D228/D307

nately entered the photoenlarger, this being first recovered by a disc with a slit fashioned like a half-ring. The signal received from the photoenlarger was amplified and fed into a commutator. This was made in two PII-4 (RP-4) relays and was actuated through a FCK-1 (FSK-1) photoresistance, illuminated through a second half-ring slit in the same disc. Thanks to the application of synchronous commutation and high-capacity condensers in the circuits of the output tube grids, the scheme suggested by the author appears to be almost insensitive to the photoenlarger's noise and other interference when the frequency and the phase are varied arbitrarily. The scheme is totally insensitive to the amplifier's zero drift and, thanks to the zero measurement method, requires no strictly linear amplifier. The measurements were conducted with interference filters in the wavelength region 0.39 - 0.9 microns. Spectral brightness factors are given for saliferous steppe, tobacco fields, young oak forest, wormwood, vineyards, etc.; and spectral reflection indicatrices are cited for concrete highways and stubble. It is evident from the graphs cited that at the time of natural illumination the spectral reflection indicatrices of natural surfaces differ

Card 2/3

Some results of ...

S/169/62/000/007/099/149  
D228/D307

strongly from the indicatrices reflecting according to Lambert's law, and that for most natural surfaces the reflection increases as the wavelength grows in the visible and the near infrared region of the spectrum. 11 references. / Abstracter's note: Complete translation.

Card 3/3

BROUNSHTEYN, A.M.; KRASIL'SHCHIKOV, L.B.

Emissivity measurements of opaque bodies. Trudy GGO  
no.118;42-50 '61. (MIRA 14:8)  
(Radiation—Measurement)

MAGARSHAK, Boris Grigor'yevich; KRASIL'SHCHIKOV, L.B., kand. tekhn. nauk, retsenzent; PROZOROVSKIY, N.A., inzh., retsenzent; TSAL, K.I., nauchnyy red.; KVOCHKINA, G.P., red.; SHISHKOVA, L.M., tekhn. red.

[Electrical measurements] Elektricheskie izmerenija. Izd.2., dop. i perer. Leningrad, Sudpromgiz, 1962. 338 p.  
(MIRA 15:12)

(Electric measurements)

MAMONOV, Petr Nikanorovich; MAGARSHAK, B.G., retsenzent; POYARKOVA,  
T.M., retsenzent; KRASIL'SHCHIKOV, L.B., nauchnyy red.;  
KVOCHKINA, G.P., red.; SHISHKOVA, L.M., tekhn. red.

[Book of problems in electric measurements] Sbornik zadach po  
elektricheskim izmereniam. Leningrad, Sudpromgiz, 1962. 105 p.  
(MIRA 16:1)

(Electric measurements)

KRASIL'SHCHIKOV, L.B.; SEMENOVA, G.P.

Spectral characteristics of materials used in actinometric  
instrument manufacture. Trudy GGO no.152:168-171 '64.  
(MIRA 17:7)

KASATKINA, O.I. (Golikova); KRASIL'SHCHIKOV, L.B.

Eliminating the effect of a variable light source in exact  
photometric measurements using an electronic potentiometer.  
Trudy GGO no. 153:78-79 '64. (MIRA 17;9)

KASATKINA, O.I. (Golikova); KRASIL'SHCHIKOV, L.B.

Automatic exchange of filters when recording highly variable  
luminous fluxes. Trudy GGÖ no. 153:75-77 '64. (MIRA 17:9)

MAGARSHAK, Boris Grigor'yevich; KRASIL'SHCHIKOV, L.B., kand.  
tekhn. nauk, retsenzent; KOLESNIKOV, N.V., inzh.,  
retsenzent; KITAYENKO, G.I., kand. tekhn. nauk, nauchn.  
red.; OZEROVA, Z.V., red.

[Marine electrical measuring instruments; a reference  
book] Sudovye elektroizmeritel'nye pribory; spravochnik.  
Leningrad, Sudostroenie, 1965. 411 p.  
(MIRA 18:8)

L 3885-66 EWT(1)/FCC GW

ACCESSION NR: AT5025232

UR/2531/65/000/170/0122/0126 39

34

B71

44,53

AUTHOR: Krasil'shchikov, L. B.; Kasatkina, O. I.

TITLE: A recording goniophotometer for measuring spectral coefficients of brightness

SOURCE: Len'grad. Glavnaya geofizicheskaya observatoriya. Trudy, no. 170, 1965.  
Issledovaniye radiatsionnykh protsessov v atmosfere (Investigation of radiation processes in the atmosphere), 122-126

TOPIC TAGS: goniophotometer, photometer, photometric analysis, light reflection

12,44,53

ABSTRACT: A recording goniophotometer is described for measuring the spectral coefficients of brightness from various surfaces at various angles of illumination. A schematic diagram of the installation is shown in fig. 1 of the Enclosure. The light source is a projector with an incandescent bulb which has a conical filament so that the light spot on the specimen is a true disc. The light reflected from the specimen or reference falls directly on the input slit of a double monochromator which is mounted on a dolly and can be moved along the arc of a circle around the specimen which is located in the plane passing through the center of this circle.

Card 1/3

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ACCESSION NR: AT5025232

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From the output slit of the monochromator, the light falls on the input of a photomultiplier. The output signals from the photomultiplier are fed through a balanced d-c amplifier to a K4-51 optical recorder. The monochromator in this instrument is modified by replacing the wavelength drum with a rotating conchoidal cam. In a single revolution, this cam moves a lever which rotates the prism so that the entire spectrum of the oxygen-cesium cathode passes through the output slit of the monochromator in 16 seconds. The prism is reset to its original position in 1 second. The cam is rotated by an MS-160 motor through a gear reducer. Wavelength markers are superimposed on the spectrogram for analysis of the spectral recordings. The upper passband limit of the system is more than five times the upper frequency necessary for reproducing a signal with small distortions. On the other hand, the time constant of the system is great enough to eliminate the need for a focusing system in front of the monochromator slit. Thus there is no angular error of measurement and the angular brightness distribution of the reference specimen (baryte paper) can be studied directly. Measurement errors under actual operating conditions do not exceed 1.5-2%. Orig. art. has: 6 figures.

ASSOCIATION: Glavnaya geofizicheskaya observatoriya (Main Geophysical Observatory)

SUBMITTED: 00

ENCL: 01

SUB CODE: OP

NO REF SOV: 002

OTHER: 000

Card 2/3

4457

L 3885-66

ACCESSION NR: AT5025232

ENCLOSURE: 01

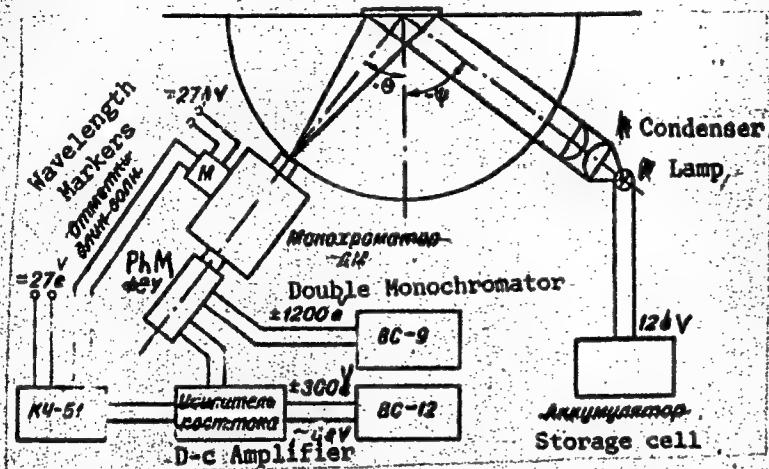


Fig. 1. Schematic diagram of the installation

BVK  
Card 3/3

KRASIL'SHCHIKOV, M., inzh.-kapitan

Commutation of radiotelephone channels. Voen. sviaz. 16 no. 6:27-  
29 Je '58. (MIRA 11:?)  
(Radio, Military)

KRASIL'SHCHIKOV, M.

Modernization of the 434 hydraulic jack. Avt. transp. 42 no.10:  
27-28 O '64.  
(MIRA 17:11)

1. Glavnyy konstruktor Grozinskogo zavoda garazhnogo oborudovaniya.

BERKOVICH, Z.S., dotsent (Groznyy); KRASIL'SHCHIKOV, M.I., (Groznyy)

Laying pipelines without trenches by horizontal boring with pneumatic removal of soil. Stroi. truboprov. 7 no.6:27-28 Je '62. (MIRA 15:7)

(Pipelines) (Boring machinery) (Compressed air)

KRASIL'SHCHIKOV, M.N. (Moskva); KULAKOVSKIY, A.I. (Moskva)

Method for reproducing functions of several variables and its  
actual derivation. Avtom. i telem. 24 no.8:1106-1116 Ag '63.  
(MIRA 16:8)

(Functions of several variables)  
(Electronic computers)

YUKHVENTS, Izrailev Abramovich. Prinimal uchastiye: KRASIL'SHCHIKOV, R.B..  
KADYKOV, N.I., retsenzent; ZALOGIN, S.A., retsenzent; BOGOROZ  
LYUBSKIY, V.I., red.; GOROBINCHENKO, V.M., red.izd-va; ISLENT'YEVA, P.G., tekhn.red.

[Metal-drawing work] Volochil'noe proizvodstvo. Moskva, Gos.  
nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii.  
Pt.2. 1960. 286 p. (MIRA 13:1)

1. Giprometiz (for Krasil'shchikov).  
(Drawing (Metalwork))

KRASIL'SHCHIKOV, Roman Borisovich; GOLYATKINA, A.G., red. izd-va;  
DOBROZHINSKAYA, L.V., tekhn. red.

[Heating during the cold drawing of wire] Nagrev pri kholodnom  
volochenii provoloki. Moskva, Metallurgizdat, 1962. 86 p.  
(MIRA 15:5)

(Wire drawing)

KRASIL'SHCHIKOV, Sh.A.; SEREBRENITSKIY, P.P.

Finish machining of steel on lathes. Mashinostroitel' no.8:33  
Ag '60. (MIRA 13:9)  
(Metal cutting)

S/121/61/000/012/004/007  
DO40/D112

AUTHORS: Krasil'shchikov, Sh.A., and Kalinina, N.I.

TITLE: Tools for the automatic turning of 1Kh18N9T steel

PERIODICAL: Stanki i instrument, no. 12, 1961, 25

TEXT: Fast wear of cutters and tangled chips cause difficulties in machining 1Kh18N9T (1Kh18N9T) steel on automatic machine tools. Research and production tests proved that these difficulties can be eliminated by using cutters of suitable geometrical shape and intensive cooling with sulfofrezol. A blind groove, which should not come out on to the auxiliary cutting edge ( $a_4 = 0.15 \pm 0.2$  mm), is required when sharpening tangential cutters (Fig.1); a 0.2-0.3 mm wide chamfer with an angle  $\gamma$  bevel =  $5 \pm 6^\circ$  and a 0.3-0.5 mm deep and 2 mm wide groove forming a rake angle  $\gamma = 18 \pm 20^\circ$  are required when sharpening straight cutters (Fig. 2). The geometrical sharpening parameters are the same both for cutters tipped with VK8 carbide and for cutters made of P18 (R18) steel. Grooves of any other dimensions result in inferior chip formation and lower durability of cutters. The straight cutters are design-

Card 1/5

S/121/61/000/012/004/007  
D040/D112

Tools for the ...

ed for the automatic four-spindle "Konomic 1 5/8" ", and the tangential cutters for one-spindle 1A136 (1A136) and 1136 automatic machines for manufacturing various parts from 22 and 24 mm gage rods previously subjected to austenitic heat treatment. The cutting conditions and test results are given in a table:

Cutter type	Material of the cutting portion	Uninterrupted automatic machining time, hours	Cutting depth, mm	Feed, mm/rev	Cutting speed, m/min
Straight	R18 RC 62-65	4	1.5	0.25	10
	VK8	7	1.5	0.25	10

Card 2/5

S/121/61/000/012/004/C07  
D040/D112

Tools for the ...

Cutter type	Material of the cutting portion	Uninterrupted automatic machining time, hours	Cutting depth, mm	Feed, mm/rev	Cutting speed, m/min
Tangential	R18 RC 62-65	4	2	0.09	20.5
	VK8	5	2	0.09	20.5
	VK8	3.5	4	0.11	30.6

NOTE: (1) The spiral chip forming in all cases has no adverse effect on the operation of the automatic machine; (2) Wear on the back edge of the cutters is 0.25-0.4 mm

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Card 3/5

Tools for the ...

S/121/61/000/012/004/007  
D040/D112

The durability of the cutters was found to be sufficient for 4-7 hours automatic operation without resetting and changing. The machining accuracy for the given wear of the cutters corresponded to classes 4-5, and the surface finish to classes 4-6. Cutting with straight cutters is more productive than with tangential cutters of an equal durability. However, straight cutters leave a helical trace on the workpiece surface when they are being retracted, and therefore they are only suitable for rough machining, or for machining prior to thread cutting. Experience in machining 1Kh19N9T steel on automatic machine tools showed that sulfofrezol is the best cutting fluid when using high-speed steel tools and carbide tools. Lathe cutters tipped with VK8 carbide consistently show a durability of not less than 4 hours and give a class 4-5 accuracy and a class 5 finish at  $v = 18 \pm 36$  m/min,  $s = 0.09 \pm 0.11$  mm/rev, and  $t = 1 \pm 2$  mm. [Abstracter's note: Complete translation]. There are 2 figures and 1 table.

Card 4/5

Tools for the ...

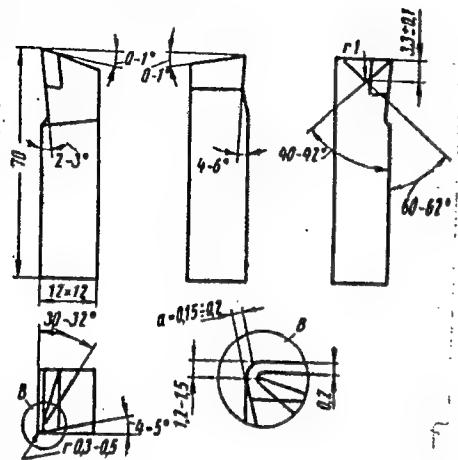


Fig. 1. Geometrical parameters of tangential cutters for machining 1Kh18N9T steel

Card 5/5

S/121/61/000/012/004/C07  
D040/D112

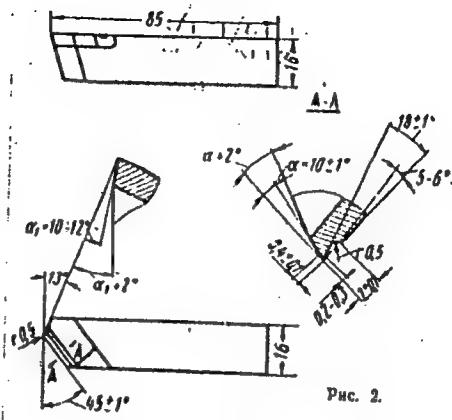


Fig. 2. Geometrical parameters of straight cutters for machining 1Kh18N9T steel.

S/117/62/000/001/003/006  
A004/A101

AUTHORS: Krasil'shchikov, Sh. A., Candidate of Technical Sciences,  
Serebrenitskiy, P. P.

TITLE: Automatic steel machining

PERIODICAL: Mashinostroitel', no. 1, 1962, 32 - 33

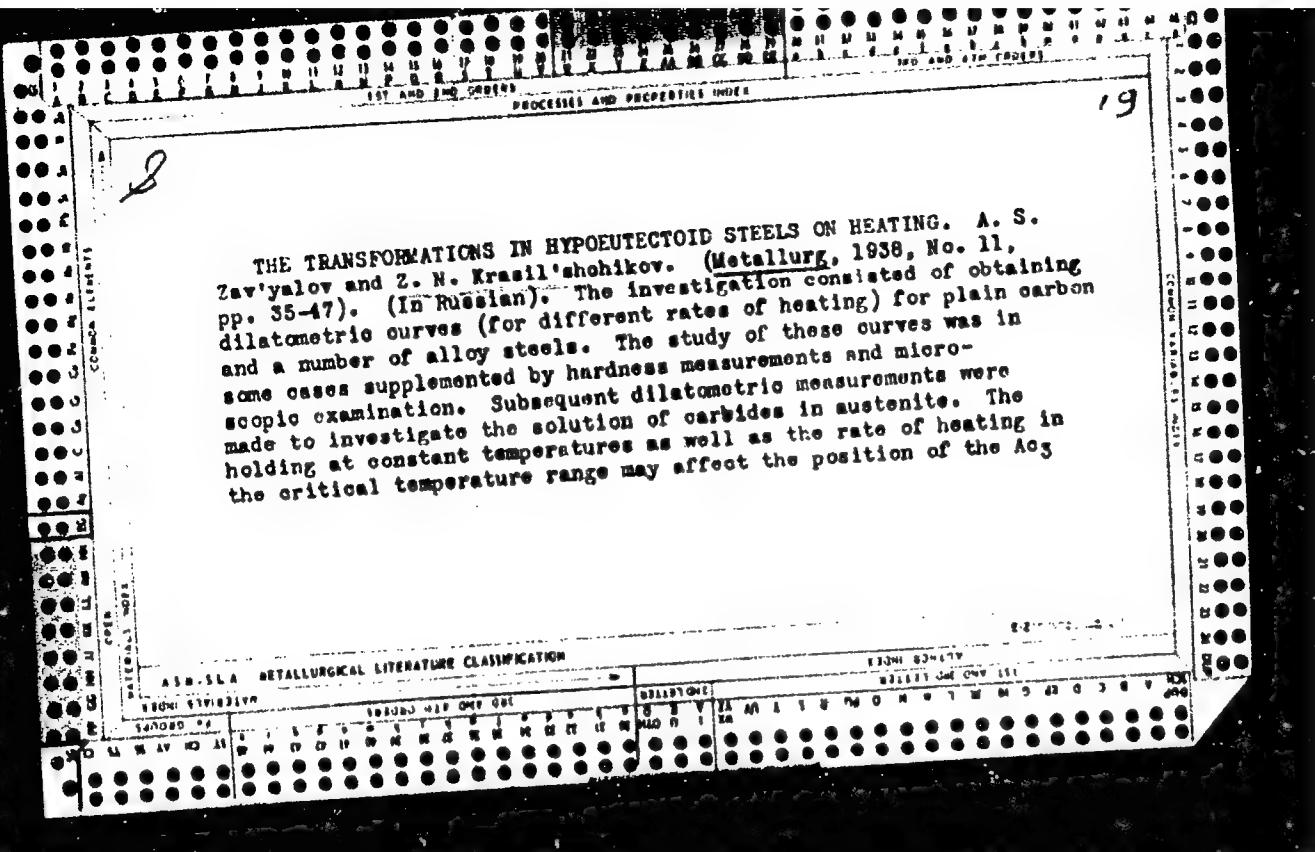
TEXT: The authors report on investigations and production tests being carried out to study the possibility of machining the 1X18H9T (1Kh18N9T) grade steel on models 1124 and 1136 automatics by cutting tools of special design at suitable cutting conditions. The cutting tools are to be made of P18 (R18) or P9K5 (R9K5) grade steel. It is recommended to fit shaving tools with BK8 (VK8) sintered-carbide bits, which considerably increases the tool life. The authors present drawings and tables of the recommended tool geometry of cutting-off, shaving, profiling, chasing and facing tools, and of drills and four-teeth countersink reamers for the machining of 1Kh18N9T grade steel. There are 8 figures and 5 tables.

Card 1/1

KRASIL'SHCHIKOV, Sh.A.; KALININA, N.I.; SEREBRENITSKIY, P.P.

Machining parts made of 1KH18M9T steel on automatic lathes.  
Stan.1 instr. 34 no.3:18-22 Mr '63. (MIRA 16:5)  
(Turning) (Lathes)

THE TRANSFORMATIONS IN HYPOEUTECTOID STEELS ON HEATING. A. S. Zav'yalov and Z. N. Krasil'shchikov. (Metallurg, 1938, No. 11, pp. 35-47). (In Russian). The investigation consisted of obtaining dilatometric curves (for different rates of heating) for plain carbon and a number of alloy steels. The study of these curves was in some cases supplemented by hardness measurements and microscopic examination. Subsequent dilatometric measurements were made to investigate the solution of carbides in austenite. The holding at constant temperatures as well as the rate of heating in the critical temperature range may affect the position of the  $A_{\text{eg}}$



point even more than does the chemical composition of the steel. The  $A_{c_1}$  and more particularly the  $A_{c_3}$  points are also affected as regards position by the rate of heating through the subcritical temperatures. Both the critical points also depend to some extent on the degree of dispersion of the structural constituents. The  $A_{c_3}$  point is, apparently, connected not with the transformation of ferrite into  $\alpha$ -iron but with the going into solid solution of "secondary pearlite," i.e., pearlite lower in carbon, formed in regions of the ferrite owing to diffusion into them of carbon from eutectoid regions. In steels containing special carbide-forming elements there occur, in addition to changes at the  $A_{c_1}$  and  $A_{c_3}$  points, changes connected with the solution of the carbides. Complete solution of a given carbide may be characterised by a "critical point of solution" which is affected by the rate of heating and the degree of dispersion of the carbide. It is suggested that the solution of carbides is preceded by their dissociation, the products of dissociation then dissolving.

PROCESSES AND APPARATUS

Transformations in hypoeutectoid steels during heating.  
A. S. Zav'yakov and Z. N. Krashchikov. Metallurgy 13, 33-37 (Nov., 1958); Met. Alimids (in Metals & Alloys) 10, No. 5, 278 (1959).—The processes of transformation of steel were investigated during heating in an isothermal medium. Microanalysis and dilatometric studies show that the  $A_{c1}$  and  $A_{c2}$  points depend not only upon the compn., but also upon the rate of heating in the intercrit. temp. interval (for  $A_{c2}$ ) and in the subcrit. temp. interval (for  $A_{c1}$ ). The lower the rate of heating in the intercrit. and subcrit. temp. intervals, the lower will be the positions of  $A_{c2}$  and  $A_{c1}$ , resp. If there are any carbides present, their crit. temp. of soln. will be affected, not only by the rate of heating but also by the dispersion of the carbides. Heating above this "crit." point will produce considerable changes in the physicochem. properties of the steel, especially the increased stability of the austenite, which is due to the rapid growth of the grain after the carbides have dissolved and the decompr. centers of the austenite have disappeared.

C. L. B.

ASIN-SEA METALLURGICAL LITERATURE CLASSIFICATION

KRASIL'SHCHIKOV, Z. N ; NEMCHINSKIY, A. L.

USSR (600)

Steel - Metallography

Deterioration of heterogeneous structures. Trudy TSNII MSP 8 no. 6, 1948.

9. Monthly List of Russian Accessions, Library of Congress, November 1957, Uncl.  
2

*Krasil'shikov, Z. N.*

USSR / Solid State Physics / Phase Transformations in Solid Bodies E-6

Abs Jour : Ref Zhur - Fizika, No. 5, 1957 No. 11697

Author : Krasil'shikov, Z. N., Shvach, Ye. N.

Inst : All-Union Machine-Building Extension Institute, USSR

Title : Fractographic Method of Control of Heat Treatment.

Orig Pub : Zayod. laboratoriya, 1956, 22, No. 9, 1056 - 1061

Abstract : A procedure is detailed for the study of the structure of metals by controlling the fractures of specimens, subjected to mechanical tests. A panoramic method in fractography is considered. Methods of fractographic specimen investigation are detailed for martensitic-sorbitic or sorbitic-pearlitic structures and for the structure of tempered martensite and bainite. An investigation of the fractures can be

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USSR / Solid State Physics / Phase Transformations in Solid  
Bodies

E-6

Abs Jour : Ref Zhur - Fizika, No. 5, 1957 No. 11697

Abstract : recommended for quality control of heat treatment. Here it is advantageous to investigate not only the character of the destruction, but also the structure of the crystalline facets. From the structure of the crystalline facets in the fractures it is possible to establish rapidly the cause of brittleness failure. In the case of pearlite and bainite brittleness, the failure passes through the grain (trans-crystalline fracture), and in the case of tempered brittleness and overheating, it passes over the boundaries of the grain (intercrystalline fracture).

Card: 2/2

KRASIL'SHCHIKOV, Z.N.

AUTHOR: Shmidt, N.V., Krasil'shchikov, Z.N., Pavlenko, N.T. and 133-9-16/23  
Shvach, Ye.N.

TITLE: Improvement of Mechanical Properties of Low Carbon Steel  
by Thermal Treatment. (Termicheskoe uprochneniye malou-  
lerodistoy stali)

PERIODICAL: Stal', 1957, No.9, pp. 833 - 837 (USSR)

ABSTRACT: An investigation of thermal strengthening (rapid cooling in water) of 8 mm plate from MCr.3 steel (for railway tanks) is described. The composition of steel %: C 0.15, Mn 0.49, Si 0.23, S. 0.042, P 0.017, Cr 0.13, Ni 0.07, Cu 0.21. The above investigation included: the determination of the optimum temperature of special heating for thermal strengthening (Table 1), the influence of annealing of thermally-strengthened steel, study of the tendency of thermally-strengthened steel to ageing and the determination of the strength of welded joints from strengthened steel. It was found that the optimum temperature of pre-heating lies within a range of 890-920 °C cooling with water spray for 40 sec (spraying of one side of plates is sufficient); annealing, if improvement in the plastic properties of steel is necessary, at 600 - 650 °C is sufficient (Fig.2); tendency to ageing of thermally-strengthened steel Cardl/2 is decreased (Table 2) and mechanical properties of welded

Improvement of Mechanical Properties of Low Carbon Steel by Thermal Treatment. 133-9-16/23

joints are improved. A comparison of the microstructure of untreated and treated steel is shown in Fig.1. The investigation confirmed that thermal strengthening of low carbon steel is advantageous. The following mechanical properties can be obtained:  $\sigma_s \geq 35 \text{ kg/mm}^2$ ,  $\sigma_B \geq 50 \text{ kg/mm}^2$ ,  $\delta \geq 14\%$ ,  $a_k \geq 3 \text{ kg/cm}^2$  (at  $-20^\circ\text{C}$  after ageing).

There are 2 tables, 3 figures and 6 references, 5 of which are Slavic.

ASSOCIATION: Branch of the TsNII MSP SSSR

AVAILABLE; Library of Congress.  
Card 2/2

KRASILSHCHIKOV, Z.N.

32-8-30/61

AUTHORS      Krasilshchikov, Z.N., Shvach, Ye.N.

TITLE        Employment of the Photometric Method in the Investigation  
                of Steel Fractures.  
                (Primeneniye fotometricheskogo metoda k izucheniyu izlomov  
                stali.)

PERIODICAL    Zavodskaya Laboratoriya, 1957, Vol. 23, Nr 8, pp.959-961  
(USSR)

ABSTRACT      Two types of fractures are treated here: fibrous and  
                crystalline ones. On change of temperature a metal may  
                alternately show both types of fractures, but the formation  
                of the facets in a crystalline fracture depends on the  
                microstructural properties of the steel type. A proportionate  
                ligature may in both cases be obtained by the employment  
                of the photometric method, where the reflection properties  
                of the fracture are taken into account as the basis of  
                research works. The section of the paper entitled  
                "Evaluation of various types of brittleness by the photo-  
                metric method" describes an experiment of the examination  
                of a steel fracture. Microphotographs were taken in  
                1:200. As a result the formula

CARD 1/3       $D_n = F_1 - E_1 + 100$     is given, where D - signifies

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Employment of the Photometric Method in the Investigation of Steel Fractures.

the proportional degree of deformation of the facets in blackness units,  $F_1$  and  $E_1$  - corresponding characteristics of the blackness degrees of the facet and the reference sample of the positive. For negatives the formula is:

$D_n = E_2 - F_2 - 100$ . A table on the deformation degrees of the facets in various types pf brittleness and at various temperatures is given. In the next section entitled "Investigation of the fibrous fractures by means of the photometric method" an example of experiments with two hardened types of steel (at 280-300 kg/mm<sup>2</sup>) is desoribed. The result shows that in one type the plastic deformation in blackness units was assumed at 100°, in the other type - 80°. For checking the fractures longitudinal filings were carried out and prophilographs made. It was found that in the first case the prophile was more wound and that in every case it corresponded to the impact toughness value (for A ~ 11 and for B - 14 kgm/cm<sup>2</sup>). On heating to 600C the fracture remained fibrous in case A, in case B crystalline points were discovered. The toughness of impact amounted

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Employment of the Photometric Method in the Investigation  
of Steel Fractures.

to 9 resp. 10 kgm/cm<sup>2</sup>. This method together with fracto-  
graphy is used for the examination of brittle and tough  
types of fractures.  
(1 table).

ASSOCIATION: None given.  
AVAILABLE: Library of Congress.

CARD 3/3

KRASIL'SHCHIKOV, Z.N., kand.tekhn.nauk; SHMIDT, N.V., kand.tekhn.nauk;  
SHVACH, Ye.M., inzh.

High-pressure pipes made of heat-treated carbon steel. Stroi.  
truboprov. 3 no.9:10-14 S '58. (MIRA 11:12)  
(Pipe, Steel)

KRASIL'SHCHIKOV, Z.N., kand. tekhn. nauk; SHVACH, Ye.N., inzh.

New techniques for the heat treatment of low-alloy and  
low-carbon steel castings. Sudostroenie 24 no.9:60-63  
S '58. (MIRA 11:11)  
(Steel--Heat treatment)

14(9,10)

SOV/95-59-4-3/12

AUTHORS: Krassil'shchikov, M.M., Schmidt, N.V., Bontsov, P.N., Candidates of Technical Sciences, Shvach, Ye.N., Pavlenko, N.T., Nechepurenko, S.Ye., Engineers. (Zhdanov)

TITLE: Experimental Industrial Lot of Pipes Made From Thermically Hardened Carbon Steel • (Cpytnaya promyshlennaya partiya trub iz termicheski uprochnennoy uglerodistoy stali)

PERIODICAL: Stroitel'stvo truboprovodov, 1959, Nr 4, pp 8-11, (USSR)

ABSTRACT: Welded pipes from thermically hardened carbon steel St.3 (sp) were manufactured in accordance with "Temporary technical conditions" approved by the Glavgas USSR. The work has been carried out by a branch of TsNII GKS in cooperation with the welding laboratory of VNIIST in the Zhdanovskiy zavod imeni Il'icha (Zhdanov Plant imeni Il'icha). Steel sheets 6,300 x 1,750 x 6 mm were rolled from slabs on mill Trio-Lauta at a starting temperature of 1,250°C and a final temperature of 900-1,000°C. The chemical composition is shown in Table Nr 1. During the hardening process the sheets in packages of 6-10 sheets were placed in an oven having a temperature of up to 1,000°C and were heated to a

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